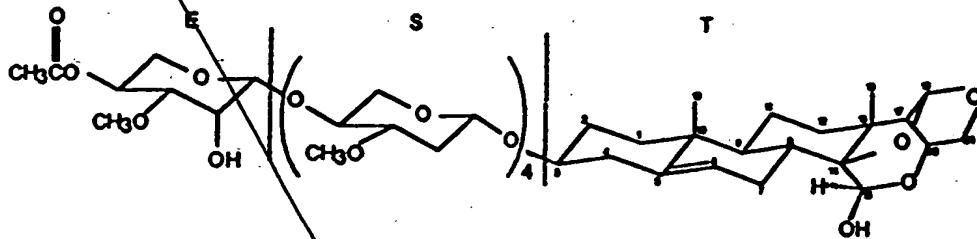


WE CLAIM:

*Subt*  
5 A compound having the general formula of MV8612  
analog VIIA and VIIIB:



10 saponin-like derivatives thereof and pharmaceutically acceptable salts thereof.

2. A saponin-like compound having the general formula EST or a derivative of said saponin-like compound, wherein E and S define a saponin oligosugar portion and T defines a steroid-like portion; wherein T is a pregnane-3β-ol derivative.

3. The compound of claim 2, wherein S is selected from the group comprising a tetra sugar derivative, a monomeric sugar derivative and an oligomeric of sugar derivatives.

20 4. The compound of claim 2 or 3, wherein S is selected from the group consisting of  $\alpha$ (1-4) (2-deoxy, 3-methoxy) -L-lyxotetose,  $\alpha$ (1-4) (2-deoxy, 3-methoxy) L-xylotetose,  $\alpha$ (1-4) (2-deoxy, 3-methoxy)-L-arabinotetose,  $\alpha$ (1-4) (2-deoxy, 3-methoxy)-L-xylotetose,  $\alpha$ (1-4) (2-deoxy, 3-methoxy)-L-ribopyranotetose,  $\alpha$ (1-4) (2-deoxy, 3-methoxy)-L-sorbitetose,  $\alpha$ (1-4)-L-lyxotetose,  $\alpha$ (1-4)-L-xylotetose,  $\alpha$ (1-4)-L-arabinotetose,  $\alpha$ (1-4)-L-xylotetose,  $\alpha$ (1-4)-3,

methoxy-L-sorbitetrose,  $\alpha$ (1-4)-L-lyxotetrose,  $\alpha$ (1-4)-L-xylotetrose,  
 $\alpha$ (1-4)-L-arabinotetrose,  $\alpha$ (1-4)-L-xylotetrose,  $\alpha$ (1-4)-3, 4  
methoxy-L-lyxotetrose,  $\alpha$ (1-4)-3, 4 methoxy-L-xylotetrose,  $\alpha$ (1-4)-3, 4  
methoxy-L-arabinotetrose,  $\alpha$ (1-4)-3, 4 methoxy-L-xylotetrose,  $\alpha$ (1-4)-3, 4  
5 methoxy-L-ribopyranotetrose,  $\alpha$ (1-4)-3, 4 methoxy-L-sorbopyranotetrose,  
 $\alpha$ (1-4)-L-lyxotetrose,  $\alpha$ (1-4)-L-xylotetrose,  $\alpha$ (1-4)-L-arabinotetrose,  
 $\alpha$ (1-4)-L-ribopyranotetrose, and  $\alpha$ (1-4)-L-sorbitetrose.

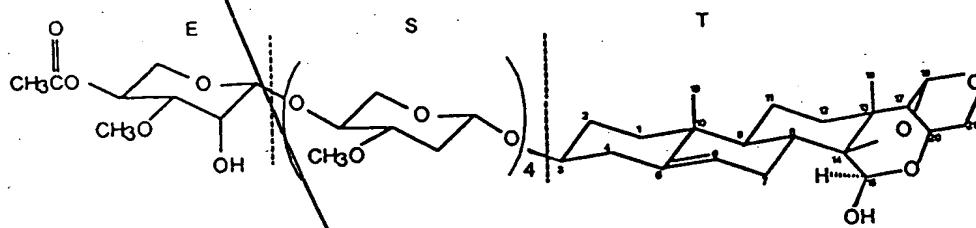
5. The saponin-like compound of claim 2, 3 or 4, wherein  
10 E is selected from the group consisting of 4-acetoxy-3  
methoxy-L- $\alpha$ -lyxose, 4-acetoxy-3-methoxy-L- $\alpha$ -xylose,  
4-acetoxy-3-methoxy-L- $\alpha$ -arabinose, 4-acetoxy-3-methoxy-L- $\alpha$ -xylose,  
- a c e t o x y - 3 - m e t h o x y - L -  $\alpha$  - r i b o p y r a n o s e , and  
4-acetoxy-3-methoxy-L- $\alpha$ -sorbose-acetoxy.

15. 6. The saponin-like compound of claim 2, 3, 4 or 5, wherein  
T is selected from the group consisting of 5-pregnane-3-ol oxytricyclo-  
15-ol, illustrol, 5-pregnane-3-ol-20-one, cholesterol, cholic acid,  
ergosterol, stigmasterol, androstenon, digitoxigenin,  $\beta$ -sitosterol, uvaol,  
20 ursolic acid, sarsasapogenin, 18,  $\beta$  -glycyrrhetic acid, betulin, betulinic  
acid, oleanoic acid, and padocarpic acid.

7. The saponin-like compound of claim 1, 2, 3, 4, 5 or 6  
wherein said compound and derivatives thereof are capable of displaying  
25 an inhibitory activity of the steady state R-type calcium channel.

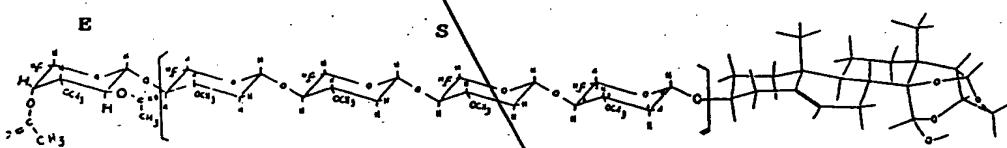
8. A R-type  $\text{Ca}^{2+}$  channel blocker having the general formula of compound VIIA and compound VIIIB:

5



10

15



and derivatives thereof.

20

9. A specific R-type calcium channel inhibitor having the general formula I (IA and IB), II, III, IV, V, VI, VIIA and VIIIB indicated in Fig. 1 and Fig. 2.

10. The compound of claim 1, 2, 3, 4, 5, 6, 7, 8 or 9, derivatized by one of alkylation, benzoylation, or glycosidation of the hydroxyl groups, chain of sugar extension or contraction.

*Subj 5*

11. A pharmaceutical composition for treating or preventing overstimulation of R-type  $\text{Ca}^{2+}$  channels associated with a disease or condition in a warm blooded animal, comprising at least one compound of claim 1, 2, 3, 4, 5, 6, 7, 8, 9 or 10, together with a pharmaceutically acceptable carrier.

10

12. The pharmaceutical composition of claim 11, wherein said compound does not significantly affect the basal activity of said R-type  $\text{Ca}^{2+}$  channel.

15

13. The pharmaceutical composition of claim 11, wherein said compound is MV8612 and/or MV8608.

20

14. A pharmaceutical composition for blocking or relieving side effects of a drug which overstimulate R-type  $\text{Ca}^{2+}$  channels comprising at least one compound of claim 1, 2, 3, 4, 5, 6, 7, 8, 9 or 10, together with a pharmaceutical carrier.

15. The pharmaceutical composition of claim 14, wherein said compound is MV8608 and/or MV8612.

25

16. A pharmaceutical composition for the prevention or treatment of a disease or condition in which a sustained elevation of  $[Ca]_c$ ,  $[Ca]_n$  or R-type  $Ca^{2+}$  blocking is encountered, comprising at least one compound of claim 1, 2, 3, 4, 5, 6, 7, 8, 9 or 10, together with a pharmaceutical carrier.

17. The pharmaceutical composition of claim 16, wherein said compound is MV8608 and/or MV8612.

18. A method for specifically inhibiting overstimulation of a R-type  $Ca^{2+}$  channel in a warm blooded animal comprising an administration of an effective amount of the compound of claim 1, 2, 3, 4, 5, 6, 7, 8, 9 or 10, together with a pharmaceutically acceptable carrier.

19. The method of claim 18, wherein said compound is MV8612 and/or MV8608.

20. A method of treating or preventing a disease or condition associated with an overstimulation of R-type  $Ca^{2+}$  channels without significantly affecting the basal activity thereof comprising an administration of an effective amount of the compound of claim 1, 2, 3, 4, 5, 6, 7, 8, 9 or 10, together with a pharmaceutically acceptable carrier.

21. The method of claim 20, wherein said compound is MV8612 and/or MV8608.

22. A method of treating or preventing a disease or condition associated with a sustained elevation of  $[Ca]_c$ ,  $[Ca]_n$ , R-type  $Ca^{2+}$  blocking, and/or cytosolic and nuclear  $Ca^{2+}$  accumulation, comprising an administration of a therapeutically effective amount of a R-type  $Ca^{2+}$  channel blocker compound according to claim 1, 2, 3, 4, 5, 6, 7, 8, 9 or 10 together with a pharmaceutically acceptable carrier.

5

23. The method of claim 22, wherein said compound is MV8612 and/or MV8608.

10

24. A method for decreasing proliferation of cancer and tumor cells comprising an incubation thereof with an effective amount of a R-type  $Ca^{2+}$  channel blocker compound according to claim 1, 2, 3, 4, 5, 6, 7, 8, 9 or 10, together with a pharmaceutically acceptable carrier.

15

25. The method of claim 24, wherein said compound is MV8612 and/or MV8608.

26. The compound of claim 1, 2, 3, 4, 5, 6 or 7, wherein said compound is capable of blocking cytosolic and nuclear  $Ca^{2+}$  overload.

20

27. The compound of claim 26, wherein said compound is MV8612 and/or MV8608.

Add  
A3